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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/101,508	09/30/1998	JEAN-LOUIS BOYER	100983	9727

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EXAMINER

CHAMBERS, TROY

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/101,508

Applicant(s)

BOYER ET AL.

Examiner

Troy Chambers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show:
 - a mechanical bolt 21, having two positions A and C, which is connected to a U-shaped key 22 placed in constriction on the exterior of the housing, rotation of which allows the bolt 21 to be placed in the desired position as described in the specification for the embodiment of Fig. 1.
 - Subject matter of pg. 4, lines 17-21 in which the firing means includes means 32, 34.
 - Subject matter of pg. 4, lines 22-24 in which the embodiment of Fig. 2 should include programming means 32, code wheels 38 and micro controller 40.
 - Subject matter of pg. 5, lines 3 and 4 disclosing a switching means 34.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. The drawings contain other similar objection not listed herein. Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities:
 - On pg. 2, line 11 the specification makes reference to "the means". It is not clear what means applicant is referring to.

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- On pg. 3, line 3 the specification makes reference to "the means". It is not clear what means applicant is referring to.
- On pg. 7, line 7 the word "housing" lacks a reference number.

The specification contain other similar objection not listed herein Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 14 recites the phrase "power generating means". The specification does not indicate which structure(s) correspond to this limitation.

6. Claim 16 recites the phrase "electrical power supply means". The specification does not indicate which structure(s) correspond to this limitation.

7. Claim 19 recites the limitation "the timing means" in line 1. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 20 recites the limitation "the microcontroller" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Regarding claim 28, the word "means" is preceded by the word(s) "booby-trap" in an attempt to use a "means" clause to recite a claim element as a means for performing

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a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14-20, 22, 23, 25, 26 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5014622 issued to Jullian. Jullian discloses a blasting cap (EBC1-3) and either a galvanometer 18 or blasting machine 20 for its detonation.

3. Jullian discloses a blasting cap having a first power supply to control and operate the control logic supply; a second power supply to detonate an igniter circuit; the first power supply being insufficient to detonate the device. (Col. 9, ll. 3-22) Each power supply is controlled by a chargeable capacitor (col. 9, ll. 3-5, ll. 23-40 and ll. 41-57) that also includes switching means including transistors and an integrated circuit (IC) for controlling the switching. Either one of the control logic supply or igniter power supply can be controlled by external means (e.g. by the blasting galvanometer having micro controller 52 or by the blasting machine having a CPU associated with the blasting

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machine. (Col. 10, ll. 17-20; also see description of remotes 18 and 20). Also disclosed is a plurality of resistors R1-R5, R13 and R14 for limiting current intensity.

4. Figures 2 and 4 disclose the components of the galvanometer 18 and the blasting machine 20. The galvanometer has power switch 22 and the blasting machine has a 12v battery power supply (not shown). Both have micro controllers, code wheels 24, 74 and also a display 26, 72 and programming switches 36, 38, 40, 42, 70, 80. Galvanometer 18 also includes information connectors 30, 32.

5. Claims 16, 27, 28, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Boucher. Boucher discloses an electronic safe/arm device comprising: low voltage power source 12; bleed resistor 168; a high voltage power source 14; a timer 212 responsive to an external trigger; arm-enable switch 122. Boucher discloses timer 212 is responsive to the operation of dynamic a dynamic switch control 128, "to measure a suitable time period." (Col. 6, ll. 56-62). Previously, Boucher stated that a voltage of about 45-65 volts was necessary to charge the firing capacitor. This information, coupled with knowledge of the capacitors capacitance allows one to charge a capacitor "for a charging time" as determined by the output time of the timer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jullian in view of U.S. Patent No. 5899553 issued to Howell. Jullian discloses a galvanometer and blasting machine having code wheel 24, 74. However, it is not disclosed that the code wheels are illuminated. Howell discloses a device for the illumination of keypads. At the time of the invention, one of ordinary skill in the art would have found it obvious to provide the code wheels of Jullian with the illumination device of Howell. The suggestion/motivation for doing so would have been to provide a means for illuminating a push-button keypad.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jullian in view of Jarrot. Jullian discloses a safe/arm device as described above. However, Jullian does not disclose the use of phototransistors. Jarrott discloses such subject matter. Specifically, Jarrott discloses a programmable electronic delay fuse comprising: a power source 33; a programmable timer 2 including a first delay timer A and a second delay timer B; an optical interface unit 1 (phototransistors) for transmission of delay-related clock signals to an external programming unit; a control processor 31; a display 32; and a keyboard 30. At the time of the invention, one of ordinary skill in the art would have found it obvious to provide the device of Jullian with the subject matter of Jarrott. The suggestion/motivation would have been to convey information via light rather than through a cable.

Response to Arguments

9. Applicant's arguments with respect to claim 14 and 16 have been considered but are moot in view of the new ground(s) of rejection. Moreover, applicant's explanation of

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the device in papers #21 and #34 make it clear that the alleged inventive subject matter of the applicants claimed apparatus resides in several concepts. First, there must exist two power intensities, I1 and I2 with I1 being incapable of detonating a primer while I2 is capable of detonating a primer. However, the prior art makes clear that this concept is not inventive. (See, e.g. Jullian; US5898122, abstract; US 5621184, col. 5, ll. 12-25; US4137850, Fig. 1, whole doc.; and, US 4700263, Fig. 1 and col. 1, ll. 19-30). Second, in the case of claim 14, the timing means must be powered by the non-detonating intensity I1. This feature is also disclosed in the prior art as evidenced by the Jullian disclosure as well as the '850 and '263 patents. And last, but not least, there must be a means for controlling the charging time of the capacitor either directly or indirectly. Again, this prior art is replete with detonation devices controlled by hand-held processor units with displays and keypads, an integrated circuit or logic circuit (See, e.g. Jullian and GB2299850). Any of these prior art disclosures, taken alone or in combination, would anticipate or make obvious applicant's claimed device.

Conclusion

10. Applicant's amendment (paper # 28, July 2002) necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

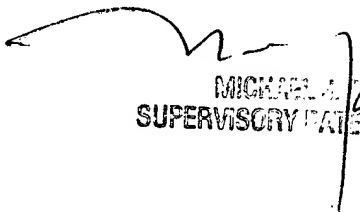
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (703) 308-5870. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (703) 306-4198.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-7687.


MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER